

Coming to Terms

I. Answer questions A–D independently. You can compare your answers with your partner when you are finished, but don't change your answer or attempt to convince your partner to change his or hers.

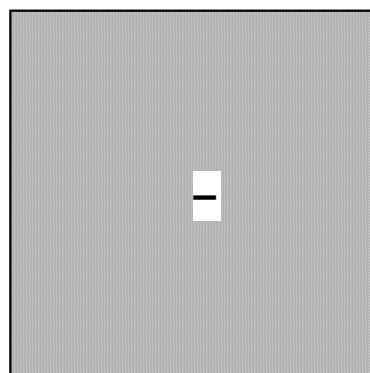
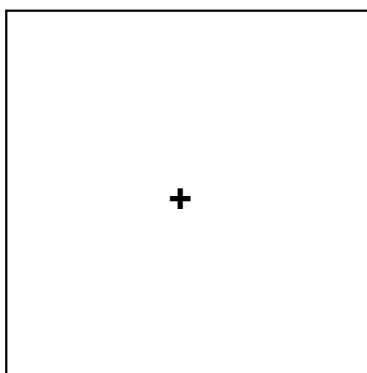
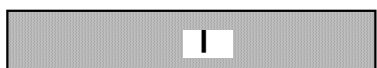
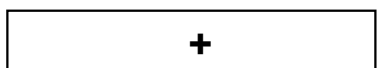
a. $x + x =$ _____

b. $x \bullet x =$ _____

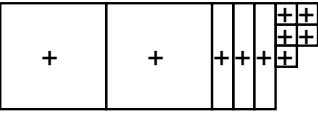
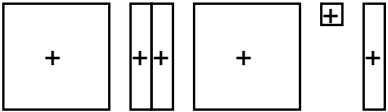
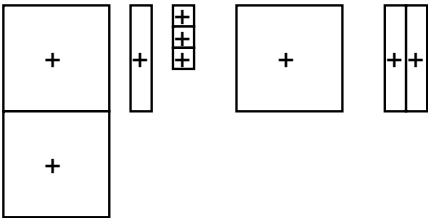
c. $x^2 + x =$ _____

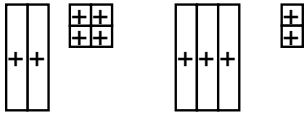
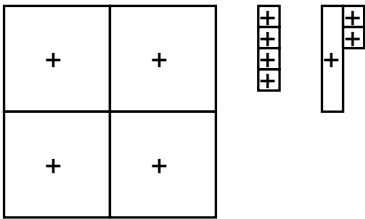
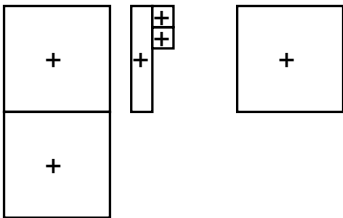
d. $2x + x =$ _____

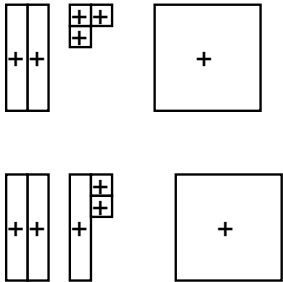
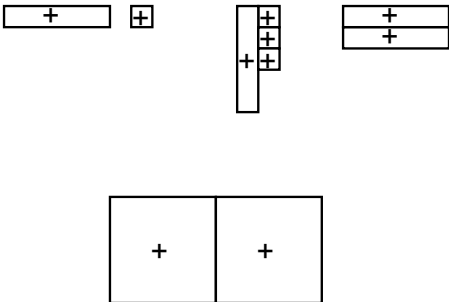
II. Label each of the pieces illustrated.



III. For each example below, set out the tiles that are illustrated. Then rearrange your tiles to group the ones with the same size and shape together. Then write the algebraic expression you have modeled.

Model	Algebraic Expression
<p>1.</p> 	<p>1.</p>
<p>2.</p> 	<p>2.</p>
<p>3.</p> 	<p>4.</p>

Model	Algebraic Expression
<p>4.</p> 	<p>4.</p>
<p>5.</p> 	<p>5.</p>
<p>6.</p> 	<p>6.</p>

Model	Algebraic Expression
<p>7.</p> 	7.
<p>8.</p> 	8.

IV. For the next examples, you draw the model, then record the simplified solution.

Problem	Model	Solution
9. $x + 6x$		
10. $8x + 6x$		
11. $4x^2 + 3x^2$		
12. $2x + 3x + 4$		
13. $2x^2 - 5$		
14. $8x + 6x + 4x^2 + 3x^2$		
15. $2x + 4 + x - 3$		
16. $x + x^2$		
17. $2x + 3x$		

There are no models for #18–22, but you can set one up if you want to.

Simplify

18. $2x + 6x =$ _____

19. $5x + 6x + 3x^2 + 2x^2 =$ _____

20. $5 + 2x + 3x + 7 =$ _____

21. $x + 2x^2 =$ _____

22. $3x + 4x + 2 + 1 =$ _____

The variables and numbers that make up the algebraic expressions you have been working with are called terms. A term is a variable, a number (sometimes called a constant), or a product of variables and numbers.

The expression $6x^2 + 98 - 3x$ has three terms.

In simplifying algebraic expressions we combine or add only like terms. Look back at problems 1–15, notice what terms you combined, and write in your own words a definition of like terms.

Go back to questions A–D. Based on your work with the blocks, would you change any of your answers?